BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

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IN THE MATTER OF APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 41H 11546900 BY ZOOT PROPERTIES LLC	**)))**	**PROPOSAL FOR DECISION**

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Pursuant to the Montana Water Use Act and to the contested case provisions of the Montana Administrative Procedure Act, and after notice required by Mont. Code Ann. §85-2-307 (2003), a hearing was held on September 28, 2004, in Bozeman, Montana, to determine whether a beneficial water use permit should be issued to Zoot Properties, LLC, hereinafter referred to as "Applicant" for the above Application under the criteria set forth in Mont. Code Ann. §85-2-311.

APPEARANCES

Applicant appeared at the hearing by and through counsel, John E. Bloomquist. Bruce Nelson; Chris Wasia, and Michael Kaczmarek, Chief Geologist, both of Morrison Maierle, Inc.; Bill Thompson, Hydrometrics, Inc.; and Dave Pruitt testified for the Applicant.

Objectors Faust, Kolnik, and McManus appeared at the hearing by and through counsel, Arthur V. Wittich. Teri Kolnik; Sandra McManus; Roselee Faust; Dr. Eloise Kendy, Kendy Hydrologic Consulting; Bill Schenk, and Patrick Byorth, Montana Department of Fish, Wildlife and Parks; and Chris Nelson were called to testify by the Objectors. Objector Walt Sales appeared at the hearing only as a witness for the other Objectors, but otherwise did not participate in the hearing.

Russell Levens, Hydrogeologist, Department of Natural Resources and Conservation was called to testify by the Applicant. Objectors called Bill Uthman, Hydrogeologist, Department of Natural Resources and Conservation (DNRC) who appeared through deposition upon oral examination on September 17, 2004. Porter Dassenko, Water Resource Specialist, DNRC Bozeman Water Resources Regional Office, was called to testify by the Objectors.

EXHIBITS

Both Applicant and Objectors offered exhibits for the record. The exhibits are admitted into the record to the extent noted below.

Applicant offered 10 exhibits for the record. The Hearing Examiner accepted and admitted into evidence Applicant's Exhibit Nos. 1, 2, 12, 14, 15, 16, 17, 18, 19, 20.

Applicant's Exhibit A1 is an 8 ½ x 14" Color Map labeled Neighboring Well Locations prepared by Morrison Maierle, Inc.

Applicant's Exhibit A2 is a Morrison Maierle Memo dated August 13, 2004, regarding Cone of Depression Calculation for Zoot Well to C. Wasia/P. Eller from M. Kaczmarek.

Applicant's Exhibit A12 consists of a one-page hydrograph entitled "Flows of the Gallatin River near Gallatin Gateway compared to estimated consumptive use." The second page is a revised hydrograph that adds cottonwoods to the original.

Applicant's Exhibit A14 is a document prepared by Morrison Maierle, Inc. entitled *Galactic Park Subdivision Water Rights Hearing 2004 An Opinion of Historical Beneficial Water Use & Proposed Beneficial Water Consumption*.

Applicant's Exhibit A15 is a document entitled *Well Completion & Pump Test Results Wells at Zoot Enterprises Inc.*

Applicant's Exhibit A16 is a document prepared by Morrison Maierle, Inc. entitled *Galactic Park Subdivision Collection of Water Rights Application Information September 2003*.

Applicant's Exhibit A17 is one-page map entitled *Galactic Park Subdivision Irrigation Areas* which was plotted September 27, 2004, by Morrison Maierle, Inc.

Applicant's Exhibit A18 consists of two general abstracts of water right for Zoot Properties LLC Water Right Nos. 41H-126909 and 41H-126910.

Applicant's Exhibit A19 is a copy of a Warranty Deed to Zoot Properties, L.L.C., from LeeLynn, Inc., dated March 5, 2001.

Applicant's Exhibit A20 is a one-page document entitled *Zoot Water Balance* (Source: July 2002 Water Supply & Distribution Design Report – Exhibit A15).

Objectors offered 14 exhibits for the record. The Hearing Examiner accepted and admitted into evidence Objectors' Exhibit Nos. 2, 4-8, 11-15, 32.

Objectors' Exhibit O1 was not admitted after Applicant's objection was sustained.

Objectors' Exhibit O2 is a copy of the "Hackett" Map from *Geology and Ground-Water Resources of the Gallatin Valley Gallatin County Montana* by O. M. Hackett, F.N. Visher, R.G. McMurtrey, and W.L. Steinhilber.

Objectors' Exhibit O4 is a copy of the "Briar" Map from USGS HA-738B by Briar et al, 1996.

Objectors' Exhibit O5 is a copy of the "Slagle" Map from USGS WRIR 95-A03A, 1995.

Objectors' Exhibit O6 is a copy of the "Kendy" Map.

Objectors' Exhibit O7 is a one-page map prepared by Kendy Hydrologic Consulting entitled *Water-Table Map of the proposed Galactic Park Subdivision site, July 10, 2002*.

Objectors' Exhibit O8 is a one-page map prepared by Kendy Hydrologic Consulting entitled *Water-Table Map of the proposed Galactic Park Subdivision site, September 10, 2002.*

Objectors' Exhibit O11 is a document prepared by Wetlands West, Inc, dated July 2001 and entitled *Wetland Delineation Report.*

Objectors' Exhibit O12 is one page containing two drawdown hydrographs by Dr. Kendy made from "data from Morrison Maierle data file".

Objectors' Exhibit O13 is a one-page document which is a copy of Page 9 of a memo to Chris Wasia/Pat Eller dated August 13, 2004, entitled "Drawdown in PSW-1 in response to pumping PSW-3, Sept. 10, 2002".

Objectors' Exhibit O14 is a one-page document which is a copy of Page 10 of a memo to Chris Wasia/Pat Eller dated August 13, 2004, entitled "Drawdown in PSW-2 in response to pumping PSW-3, Sept. 10, 2002".

Objectors' Exhibit O15 is a one-page copy of a Steve Custer Letter to Mick Seeburg dated June 18, 2001.

Objectors' Exhibit O24 was not admitted into the record. The admittance of the Exhibit (memo from Russell Levens to Scott Compton) into the record was objected to by Applicant based upon surprise. The ruling was that if the document was in the DNRC file, the Exhibit would be admitted and the objection overruled; if it was not in the file, the objection would be sustained and the Exhibit not admitted. Later it was determined that the document was not in the DNRC file and the Objection was sustained and the Exhibit not admitted into the record. Objector made an offer of proof during Porter Dassenko's testimony regarding this exhibit.

Objectors' Exhibit O32 is Walt Sales Water Right Listing.

In the deposition of Bill Uthman, 13 exhibits were offered for the record. The Hearing Examiner accepted and admitted into evidence Objectors' Exhibit Nos. 4-16.

Deposition Exhibit 4 is a copy of handwritten notes/chronology.

Deposition Exhibit 5 is a copy entitled Criteria Addendum Application for Beneficial Water Use Permit (August 26, 2003).

Deposition Exhibit 6 is a copy of a memorandum from Bill Uthman to S. Compton and P. Dassenko (DNRC) dated November 15, 2001.

Deposition Exhibit 7 is a copy of a memorandum from Curt Martin, DNRC Water Rights Bureau Chief, to DNRC Water Rights Bureau, Regional Offices, Water Management Bureau, and Legal Staff dated March 29, 2002.

Deposition Exhibit 8 is a copy of a May 31, 2002 Bill Uthman memorandum to Water Resources Division.

Deposition Exhibit 9 is a copy of a December 5, 2002 Bill Uthman memorandum to Porter Dassenko.

Deposition Exhibit 10 is a copy of a November 21, 2002, letter to P. Dassenko from M. Kaczmarek.

Deposition Exhibit 11 is a copy of a Kim Overcast (DNRC) August 27, 2004 memorandum to Regional Managers and New Appropriations Specialists.

Deposition Exhibit 12 is a copy of a Kim Overcast (DNRC) September 1, 2004 memorandum to Regional Managers and New Appropriations Specialists.

Deposition Exhibit 13 is a copy entitled "Aquifer Testing Guidelines" (April 2004).

Deposition Exhibit 14 is a copy of a blank form entitled "Aquifer Test Data".

Deposition Exhibit 15 is a copy entitled "Testing for an "Immediate or Direct" Hydraulic Connection in Basin Closure Areas" (Jun, 04).

Deposition Exhibit 16 is a document entitled "Testing for 'Immediate or Direct' Hydraulic Connection".

The deposition of Bill Uthman was admitted into the record subject to objections made during the deposition. I note the following objections and rule as follows:

DEPOSITION OF BILL UTHMAN		
Page/Line	**Objection**	**Ruling**
22/19	Mr. Bloomquist: Objection to **Exhibit 5** (not disclosed).	**Overruled**. Deposition Exhibit 5 is in the DNRC file.

DEPOSITION OF BILL UTHMAN		
Page/Line	**Objection**	**Ruling**
42/16	Mr. Bloomquist: Objection. Witness is not qualified to establish Department policy.	Question was rephrased.
63/3, 12	Mr. Bloomquist: Objection. Witness is not in the role to determine how many wells will be granted.	The objection is **overruled**. The third version of the question is "who does write the permit?" The witness is allowed to offer his understanding of who writes a permit.
94/10	Mr. Wittich: Objection. Witness has no foundation to make a decision.	**Overruled**. The witness is a peer of the Staff Expert in this matter, Russell Levens, and has the expertise to offer an opinion on the question asked when Mr. Levens' opinion is part of the question.
101/16	Mr. Wittich: Objection. Lack of foundation	**Overruled**. The witness can offer his understanding of a memorandum he read a long time ago or minutes ago. It is still just his understanding.

PRELIMINARY MATTERS

Objector Walt Sales appeared at the hearing only as a witness for the other Objectors, but otherwise did not participate in the hearing. Mr. Sales did not attend the whole hearing proceeding and did not ask to be excused. Mr. Wittich did not represent Objector Sales in this proceeding. Prior to the hearing Objector Sales moved for a continuance of the hearing because he would be involved in crop harvest activities and would not be able to attend the hearing set for September 28, 2004. Objector Sales' Motion For Continuance was denied. Objector Sales was able to attend a small portion of the hearing and offer testimony in support of his objection as a witness for the other Objectors. The Hearing Examiner does not find Objector Sales in default. Objector Sales' interest in the proceeding is not dismissed and status as a Party is retained.

Prior to the hearing the Parties stipulated that water use permitting criteria at issue for the hearing are limited to physical and legal water availability, adverse affect, and possessory interest. In addition, at issue is whether the requested permit is subject to basin closure.

The Hearing Examiner hereby notifies the Parties that he is taking official Notice of the following Department of Natural Resources and Conservation documents:

- *Bud Clinch Letter to Donna Burns, Administrator, Meagher County Conservation Board*, paras. 2, 3, (April 18, 2002) (hereinafter *Bud Clinch Letter*).
- *DEPARTMENT GUIDELINES FOR TEST WELLS AND AQUIFER TESTS*, July 15, 2003.
- *Proposal For Decision In the Matter of Application No. 41J 11508000 by Springdale Colony,* (2004).

The Hearing Examiner, having reviewed the record in this matter and being fully advised in the premises, does hereby make the following:

FINDINGS OF FACT

General

1. Application for Beneficial Water Use Permit 41H 11546900 in the name of Zoot Properties, LLC, was signed and was filed with the DNRC on March 9, 2001. (DNRC file)

2. The Environmental Assessment (EA) dated February 20, 2003, prepared by the DNRC for this Application was reviewed and is included in the record of this proceeding.

3. Applicant seeks to appropriate 1440 gallons per minute (gpm) up to 885.6 acre-feet of water per year from ground water. The water is to be diverted using a total of six wells. Three wells are single purpose geothermal cooling wells to appropriate a total of 1090 gpm up to 704.1 acre-feet per year. The three geothermal cooling wells are located in the SW¼SE¼NW¼, NW¼NE¼SW¼, SE¼SE¼NW¼, all in Section 11, Township 02 South, Range 04 East, Gallatin County, Montana. The proposed place of year-round geothermal cooling use is in the SW¼ of Section 11, Township 02 South, Range 04 East, Gallatin County, Montana. The remaining three wells are multi-purpose nongeothermal wells (production wells) to appropriate a total of 350 gpm up to 181.5 acre-feet, and are located in the NE¼NW¼SW¼, SE¼SW¼NW¼, NE¼NW¼SW¼, all in Section 11, Township 02 South, Range 04 East, Gallatin County, Montana. The proposed period of use for domestic and commercial uses is year-round, and May 1 though September 30, inclusive, for irrigation use. The proposed places of use for the multiple domestic purpose of 45.3 acre-feet, the commercial purpose of 42.5 acre-feet, and the 35 acre irrigation purpose of 93.7 acre-feet, are located in the SW¼ of Section 11, Township 02 South, Range 04 East, Gallatin County, Montana. (DNRC file)

4. Applicant's Expert evaluated the following proposed pumping scheme for the Application in this case and modeled the cooling wells at 167 gpm up to a total of 56.5 acre-feet per year, for the period May 1 through September 30, inclusive. *See* Finding of Fact No. 9 below. The wells will be pumped one at a time in rotation each for a twenty-four hour period. The multi-purpose production wells will pump the modeled 300 gpm for a total of 181.5 acre-feet per year. These wells will also pump one at a time in rotation each for a twenty-four hour period for the respective periods of use for the purposes, unless additional pumping is required for emergency fire suppression. Under the proposed pumping scheme, one cooling well and one production well would be in operation at the same time to provide the required water. (testimony of Mike Kaczmarek)

Physical Availability

5. The three cooling wells have been operating under an Interim Permit for cooling purposes issued on August 28, 2003, by the DNRC Bozeman Water Resources Regional Office. The cooling wells have been in use since a couple of months prior to August 19, 2003, and have supplied the cooling needs of the Applicant and shows water is physically available. Operation under the Interim Permit is for the same cooling purpose requested in the Application. Water is physically available for the cooling wells and purpose. (DNRC file, testimony of Bruce Nelson)

6. The three production wells in the Application are each intended to provide water for the domestic, commercial, and irrigation purposes. Well PSW-1 was test pumped at a constant 425 gpm on December 2, 2001, for 24 hours. Well PSW-2 was test pumped at a constant 425 gpm on December 2, 2001, for 24 hours. Well PSW-3 was test pumped at a constant 500 gpm beginning on September 10, 2002, for 72 hours. Applicant's Expert Mike Kaczmarek used aquifer characteristics determined from the aquifer testing to model pumping water levels (using the proposed pumping scheme for all six wells) through the irrigation season which is when the maximum use occurs. The pumping water levels remain above the bottom of the wells during this period as modeled. Water is physically available for the three production wells. (DNRC file, testimony of Mike Kaczmarek)

Legal Availability

7. Applicant's proposed use of the cooling wells consists of pumping the water from the wells, running the water through a heat exchanger, and then returning the water to the aquifer through a clean water drain field on the Applicant's property. The cooling wells are a non-

consumptive use where all water diverted is returned to the source. Thus, all pumped water returns to the aquifer and does not affect existing legal demands (identified by the DNRC at the request of the Applicant) within the area of potential impact as modeled. Water is legally available for the cooling wells. (DNRC file, testimony of Bruce Nelson, Chris Wasia)

8. The production wells are intended to provide water for the domestic, commercial, and irrigation purposes. Applicant's Expert used aquifer characteristics determined from the aquifer testing described in Finding of Fact No. 6 above to model pumping levels (under the proposed pumping scheme using all six wells) through the irrigation season which is when the maximum use occurs. The maximum predicted drawdown associated with the proposed pumping rates and pumping schedules for one year of operation occurs at 300 days of pumping according to Applicant's revised Figure 2 of Applicant's Exhibit A2. Drawdown beyond a distance of about 500 feet from the pumped wells is less than 0.4 feet after 300 days of pumping. The existing legal demands (identified by the DNRC for the cone of depression at the request of the Applicant) in the area are located where the drawdown in the cone of depression ranges from 0.4 to 0.1 feet or less. The cone of depression does not cause enough drawdown at the locations of the existing wells to affect their ability to take ground water from the alluvial aquifer. Water is legally available for the production wells. (DNRC file, testimony of Mike Kaczmarek)

Adverse Effect

9. The maximum predicted drawdown associated with pumping the cooling wells at 167 gpm May through September, and the production wells at the 300 gpm according to the proposed pumping scheme over the course of one year of operation, occurs at 300 days of pumping. For the set of three cooling wells and the set of three production wells, Applicant's plan is to pump for short periods of time and rotate pumping among each set of three wells so no more than one well is pumped at a time (except during a fire emergency) to reduce drawdown in the aquifer. Reducing drawdown will reduce effects on area aquifer users. Drawdown beyond a distance of about 500 feet from the pumped wells is limited to less than 0.4 feet when pumping the cooling wells at 167 gpm and the production wells at the 300 gpm flow rates used in the model. The existing wells in the area are located where the drawdown in the cone of depression ranges from 0.4 to 0.1 feet or less. There is testimony that the cooling wells will be used at 1090 gpm, yet the cooling well pumping rate modeled by Mr. Kaczmarek is 167 gpm for twelve hours per day between May 1 and September 30 instead of the 1090 gpm

requested[1]. *See* Applicant's Exhibit A2. Even though all water pumped for this purpose is returned to the aquifer and there is testimony from the owner of the well nearest to Applicant's wells, Mr. Dave Pruitt, that pumping the cooling wells at the 1090 gpm rate has not affected use of his well (as of the date of the hearing), Applicant's Expert presented evidence on projected impacts only for the modeled flow rate of 167 gpm. Thus, the rate used to predict effects on others must be used instead of 1090 gpm requested. The 167 gpm cooling well rate will not adversely affect other appropriators. (DNRC file, testimony of Mike Kaczmarek, Dave Pruitt, Dr. Eloise Kendy)

10. The cone of depression using Applicant's proposed operation plan for the cooling and production wells does not cause enough drawdown at the existing wells within the cone of depression to affect their ability to take ground water from the alluvial aquifer, so there is not adverse effect on area wells at the 300 gpm production well flow rate used in Applicant's modeling predictions. The cone of depression from a 333 gpm maximum pumping rate (see Finding of Fact No. 16 below) or from the 350 gpm pumping rate applied for is not in the record. Even though the cone of depression from pumping at 333 gpm is not believed to be significant, it was not modeled and there is no evidence in the record as to its impact, if any. Thus, the adverse effects for the modeled flow rate (300 gpm) must be used in the adverse affect analysis. (DNRC file, testimony of Mike Kaczmarek)

11. The general direction of ground water flow in the vicinity of the Applicant's point of diversion is in a northwesterly to northerly direction. A northerly direction is parallel to the West Gallatin River. This ground water enters the reach of the West Gallatin that generally lies within Section 10 and 11 of Township 2 South, Range 4 East. (Applicant's Exhibit A1, See Finding of Fact No. 22 below, testimony of Russell Levens)

12. The aquifer Applicant proposes to use for both cooling and production is connected to the West Gallatin River west of Applicant's place of use. The cone of depression extends to the West Gallatin River when the requested volume of water is modeled. Capturing water that has historically flowed from the aquifer into the West Gallatin River will reduce flows in the River by the amount captured. Thus, Applicant's proposed use will affect downstream West Gallatin River appropriators by the amount - volume and flow rate - captured. Downstream appropriators do not receive the full amount of their existing rights. Downstream existing rights have in the past relied upon the tributary ground water contribution area aquifers have made to the West

[1] (167 gpm times 720 Minutes per day times 153 days/year) / 325851 gal/af = 56.5 acre-feet/year

Gallatin River. Reduction in the amount of tributary ground water will occur as a result of drawdown in the aquifer beneath the West Gallatin River. Ground water continues to reach the river decreased by the volume and flow rate captured. Applicant's Expert Mike Kaczmarek stated the portion consumed of the requested water would equal the maximum amount of capture, and then, Mr. Kaczmarek estimated the theoretical capture at 0.095 cubic feet per second[2] (cfs). This theoretical capture flow rate corresponds to a consumptive use volume of 69.4 acre-feet per year[3]. Applicant plans to not divert or use their portion (40%) of irrigation Water Right Claim Nos. 41H-126909 (122 gpm up to 115.4 acre-feet, 1883 priority date, diverted into the Beck and Border Ditch)[4] and 41H-126910 (337.5 gpm up to 319.12 acre-feet, 1866 priority date, diverted into the Beck and Border Ditch)[5] both from the West Gallatin River to mitigate losses to the West Gallatin River from any capture of ground water tributary to the West Gallatin River. Applicant's Exhibit No. A14 indicates that the historical beneficial use of water (for only the East 80 acre half), not including excessive infiltration/runoff (which is not considered consumptive) is estimated to be 108 acre-feet per year. If not diverted, water from Applicant's surface water irrigation rights will flow down the West Gallatin River to the benefit of all appropriators below the Applicant's point of diversion into the Beck and Border Ditch. These water rights have been historically used and administered by a district court water commissioner. Applicant's 1866 water right has not been cut off in district court water allocation exercises since the 1930s; Applicant's 1883 water right has been cut off one time in recent years. The record does not show whether there are intervening appropriators between Applicant's Beck and Border Ditch point of diversion for these rights and the reach of the West Gallatin River west of the proposed place of diversion and use. Applicant's share of the rights historically used and proposed to be not diverted (≈122 gpm up to 115.4 acre-feet, and 337.5 gpm up to 319.12 acre-feet, or at least 108 acre-feet consumed) exceeds that amount captured and consumed by the proposed ground water use (≈.095 cfs / 43 gpm, or 69.4 acre-feet). If there were intervening appropriators, they would reap the benefits of Applicant's proposed plan instead of those downstream of where the tributary ground water captured would have entered

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2 .095 cfs ≈ 43 gpm)

3 54 af / yr irrigation demand (Applicant's Exhibit A14, Figure 4) +15.4 af / yr domestic demand (Applicant's Exhibit A14, Figure 5 [87.6-72.2=15.4]) = **69.4** af / yr.
((**69.4** af / yr times 325851 g / af) / 365 d / yr times 1440 m / d) / 448.8 gpm / cfs~.**095** cfs

4 Applicant's Exhibit A18: 305 gpm times .4 (Zoot portion) = 122 gpm; 288.57 af times .4 = 115.43 af

5 Applicant's Exhibit A18: 1.88 cfs times 448.8 g / cfs times .4 (Zoot portion) ≈ 337.5 gpm; 797.8 af times .4 = 319.12 af

the West Gallatin River. There will be no adverse effect by Applicant's proposed use when the existing West Gallatin River water rights are not used by the Applicant **and** use of the water not diverted is protected from existing or future appropriators until it reaches the West Gallatin River where the captured ground water would have entered the river west of Applicant's place of diversion. (DNRC file, testimony of Bruce Nelson, Chris Wasia, Mike Kaczmarek, Russell Levens, Dave Pruitt, Walt Sales, Dr. Eloise Kendy)

13. The capture of ground water may occur at all times water is diverted from the aquifer or year round. Applicant's Expert argues that the amount of captured water is reduced when the rotation pumping scheme is used, and that capture is reduced by return flow from domestic and commercial uses, and the portion of the irrigation water which returns to the aquifer. These arguments were offered to explain that off irrigation season capture will be minimal and will have no affect on any surface water appropriator. However, when Applicant estimated the amount of water captured no amount of return flow was calculated. It cannot be both ways. Either the return flow must be determined and deducted from the amount captured, or the amount of non-irrigation season capture must be augmented if there are affects on existing rights during this time. Off season rights which might be affected are the Montana Department of Fish, Wildlife and Parks' (DFWP) instream Murphy Rights downstream of the Zoot area, and their instream Water Reservations. DFWP's instream rights will be adversely affected if the flow in the river is diminished below their instream right, or their rights are met less frequently. DFWP has not seen or compared the historic use of Applicant's water rights with the proposed use. However, if Applicant's planned reduction in use of the irrigation rights is greater than the amount consumed, and the rights not used are not used by someone else, then DFWP is not concerned. DFWP's concern is with the proposed irrigation consumption. The adverse affects of capture of the ground water tributary to the West Gallatin River is limited to effects during the irrigation season. Applicant's augmentation plan to not use the two irrigation rights will offset the impacts of capture during the irrigation season. (Testimony of Mike Kaczmarek, Bill Schenk)

14. Some Objectors voiced concern about less water in the river if additional people move to the Four Corners area[6], and their (Objectors') water right may be called in the future by a downstream senior appropriator because there is less water in the river. Some Objectors are also concerned about effects of lower West Gallatin River water levels on their recreational use of the river. Objector Faust is a licensed bird rehabilitator and can no longer release birds on the

[6] Four Corners is located about a mile southeast of the proposed place of use according to Applicant's Exhibit A1.

River because of a lack of success rate. Objectors have ground water rights and West Gallatin River irrigation and stock water rights, but Objectors have no water right for recreational or wildlife habitat purposes from the West Gallatin River. (DNRC file, testimony of Teri Kolnik, Sandra McManus, Roselee Faust)

Adequacy of Appropriation Works

15. Three wells have been drilled and have been used for the closed geothermal cooling purpose under an Interim Permit issued by the DNRC. The three cooling wells have been used at the total requested rate for this purpose of 1090 gpm. The cooling wells provide adequate flow and amount. (DNRC file, testimony of Bruce Nelson, Chris Wasia)

16. In addition to the three cooling wells there are three production wells intended for use with the multiple domestic, commercial, and irrigation purposes. The production wells are designed to provide fire flows in addition to the requested flow. The non-fire daily water demands of the production uses can be satisfied by pumping one well at a time for 4 to 9.1 hours per day. The maximum pumping rate from each production well with installed pumps is 333 gpm according to Applicant's witness Mr. Wasia; 350 gpm was requested; yet, only 300 gpm was modeled by Mr. Kaczmarek. The wells are designed to pump one at a time and rotate pumping to the next well after completion of each demand pumping cycle. If one well cannot achieve adequate shut-in pressure, such as in the case of a fire emergency, then the next well in the pumping rotation turns on to provide additional water and pressure. The production well system is designed to provide water for the fully completed project except for the proposed cooling purposes. The appropriation works for production purposes are adequate to divert the modeled volume and flow rate. (DNRC file, testimony of Chris Wasia)

Beneficial Use

17. Applicant has provided persuasive evidence that the proposed purposes are beneficial uses of water. The **modeled** flow of the cooling purpose and the **modeled** flow for the multiple domestic, commercial, and irrigation purposes; and volume of water modeled for these purposes are reasonable. *See* Mont. Code Ann. §85-2-102(2). (DNRC file, testimony of Bruce Nelson, Chris Wasia)

Possessory Interest

18. Applicant is the owner of the property which has been designated in the Application as the place of use. Even though Applicant has sold the subdivision rights to "New West", Applicant

still has a possessory interest in the place of use. And, Applicant has the exclusive property rights in the ground water development works. (DNRC file, testimony of Bruce Nelson)

Water Quality Issues

19. No objections relative to water quality were filed against this Application nor were there any objections relative to water classification or to the ability of a discharge permit holder to satisfy effluent limitations of his permit. (DNRC file.)

Basin Closure Issues

20. The proposed wells are located in the Gallatin Valley which is within the Upper Missouri River basin closure area. The DNRC cannot process or grant an application for a permit to appropriate water within the Upper Missouri River basin until the final decrees have been issued in accordance with Mont. Code Ann. Title 85, Chapter 2, Part 2 for all of the subbasins of the Upper Missouri River basin. The "Upper Missouri River basin" means the drainage area of the Missouri River and its tributaries above Morony Dam. Mont. Code Ann. §85-2-342(4). However, this closure does not apply to ground water which is not immediately or directly connected to surface water. Mont. Code Ann. §85-2-343(2)(a) and §85-2-342(2). The DNRC made a written determination that water from the subject wells is ground water which allowed processing of this Application to continue. A DNRC hydrogeologist (Uthman December 5, 2002, Memo to Porter Dassenko) reviewed information provided by the Applicant and concluded the water requested is connected to the West Gallatin River, but taking the water will not induce infiltration from the river or the nearby Spain-Ferris Ditch. At hearing the Parties presented evidence regarding the immediate or direct connection of the ground water requested to surface water. (DNRC file)

21. Objectors' expressed concern that Applicant's wells would induce infiltration from the Spain-Ferris Ditch. Applicant's Expert Mike Kaczmarek pump tested well PSW-3 for 72 hours in September 2002 while observing water levels in the pumping well, nearby wells, and piezometers installed between the pumping well and the Spain-Ferris Ditch. The Spain-Ferris Ditch is the nearest surface water to Applicant's wells. During the pumping test, the cone of depression extended to and beyond the Spain-Ferris Ditch and no recharge boundaries were seen which would have indicated a hydraulic connection to the Spain-Ferris Ditch. The nearby observation wells included Applicant's other two production wells and the two piezometers. However, Applicant explained that during the July 2002 test the Spain-Ferris Ditch overflowed and concluded the July test could not be used in the immediate or direct testing purpose. When the test was repeated in September 2002 there was no response indicating a hydraulic

connection to the Spain-Ferris Ditch. Because there is no hydraulic connection to the Spain-Ferris Ditch, there is not an immediate or direct connection between the aquifer and the Spain-Ferris Ditch. (DNRC file, testimony of Mike Kaczmarek)

22. The West Gallatin River within the projected cone of depression of the proposed wells is generally gaining according to existing literature covering the area (Hackett, Briar, Slagle, Kendy). Applicant's experts, Kaczmarek and Thompson, see this reach of the West Gallatin River as gaining or that ground water is flowing parallel to the river. Objectors' expert sees the reach of stream in this area as losing or losing in some reaches and gaining in others. Data on ground water and streambed elevations over time are needed to make this evaluation with any certainty. Objectors' Exhibit O-11, a copy of a portion of a wetland delineation report prepared for Applicant's project, indicates ground water created area wetlands and also loss of surface water from the Spain-Ferris Ditch to wetlands. The non-degradation report (DNRC file) prepared by Nicklin Earth & Water, Inc. to analyze potential for degradation of surface water quality near the Zoot project indicates that "the direction of ground water flow is towards the north northwest and runs **about** parallel to the West Gallatin River. However, the data are limited and may not be conclusive." (emphasis added) These wetland delineation and degradation of surface reports prepared for the Applicant are not conclusive because they are based on limited data. Objectors presented evidence that this reach of the West Gallatin River is losing by taking three miscellaneous ground water level measurements made the day before the hearing in this matter. The measurements indicate the depth to ground water in wells east of the West Gallatin River increases further from the river. These measurements give more detailed local information than the referenced literature, however, these measurements were made without knowledge of pre-measurement conditions in the measured wells. The use of these three measurements is not sufficient to overturn the general literature. Objectors' Expert Kendy also used well water levels from Applicant's July and September 2002 data to draw water level contours which indicate water is flowing away from the West Gallatin River which would indicate the river is losing in this reach. Here, the water level data used for this contour exercise are from wells only at the Applicant's proposed place of diversion and use. Water level data outside the Applicant's proposed place of use should be incorporated into any analysis to contour water levels to determine if a stream reach is gaining or losing. Objectors' Expert voiced concern about using the existing literature when it may be based upon only one well in this area or decades old even though the studies are area-wide. The consensus of experts in this matter is that more local data is needed to make a convincing determination of whether this area is a gaining or losing

reach of the West Gallatin River. I agree. However, I find that measurements made the day before the hearing or plotting water levels of Applicant's well data do not constitute sufficient local data to determine whether the West Gallatin River is gaining or losing in this reach near Applicant's point of diversion and place of use. Thus, I find the West Gallatin River in the reach near Applicant's project is gaining as shown in the existing literature until changed in a proper study adequate for the purpose. (DNRC file, testimony of Mike Kaczmarek, Bill Thompson, Dr. Eloise Kendy)

23. Whether the West Gallatin River is gaining or losing is important because of the DNRC's definition of ground water which is immediate or directly connected to surface water. Pumping ground water which induces infiltration from nearby surface water by reversing the hydraulic gradient between the source aquifer and a **gaining** body of surface water is immediately or directly connected to surface water according to the DNRC. **Or**, pumping ground water which induces infiltration from a nearby body of surface water by steepening the hydraulic gradient between the source aquifer and a **losing** body of surface water is immediately or directly connected to surface water according to the DNRC. There is consensus among the experts in this matter that the aquifer which Applicant proposes to take water from is connected to the West Gallatin River. The ground water modeled in this Application is not immediately or directed to the West Gallatin River because it does not induce infiltration from the River or other surface water. (Testimony of Russell Levens, Mike Kaczmarek, Dr. Eloise Kendy)

Based on the foregoing Findings of Fact and the record in this matter, the Hearing Examiner makes the following:

CONCLUSIONS OF LAW

1. This Application is for ground water that is not immediately or directly connected to surface water and can be processed prior to issuance of final decrees for all the subbasins of the Upper Missouri River basin. The DNRC cannot process or grant an application for a permit to appropriate water within the Upper Missouri River basin until the final decrees have been issued in accordance with Mont. Code Ann. Title 85, Chapter 2, Part 2 for all of the subbasins of the Upper Missouri River basin. The "Upper Missouri River basin" means the drainage area of the Missouri River and its tributaries above Morony Dam. Mont. Code Ann. §85-2-342(4). However, ground water that is not immediately or directly connected to surface water is exempt from the closure. See Mont. Code Ann. §§85-2-342(2), 343(2)(a). "Ground water" means water

that is beneath the land surface or beneath the bed of a stream, lake, reservoir, or other body of surface water and that is not immediately or directly connected to surface water. Mont. Code Ann. §85-2-342(2). The meaning of immediately or directly connected to surface water is not explicitly defined in basin closure statutes. *See Bud Clinch Letter to Donna Burns, Administrator, Meagher County Conservation Board*, paras. 2, 3, (April 18, 2002) (hereinafter *Bud Clinch Letter*). The DNRC considers induced infiltration of surface water into ground water the determining factor in whether ground water is immediately or directly connected to surface water. *See DEPARTMENT GUIDELINES FOR TEST WELLS AND AQUIFER TESTS*, July 15, 2003, and *In the Matter of Application No. 41J 11508000 by Springdale Colony, Proposal For Decision*, (2004). *See* Official Notice, Preliminary Matters, page 5, above. That is, the Department Guidelines state an applicant first needs to determine whether the source aquifer is hydraulically connected to surface water and then whether the proposed well creates sufficient drawdown beneath a stream to induce infiltration from the streambed. Neither the closure nor the Department Guidelines address stream reaches that may be in transition from gaining reaches to losing reaches. Nor do they address reaches which change within a single season. There was evidence presented at this hearing purporting to show the West Gallatin River was losing water to ground water **and** gaining water from ground water. The status of gaining or losing is significant because if the River reach adjacent to the proposed points of diversion is losing water to the ground water aquifer, the Application could not go forward. The DNRC's interpretation of ground water immediately or directly connected to surface water, allows processing of ground water applications which are connected to surface water which do not induce surface water infiltration into the aquifer. This interpretation allows an applicant to create a plan to exercise a permit that demonstrates Applicant's use of water will be controlled so the water rights of prior appropriators will be satisfied. Here, Applicant's plan is to augment flows in the source to mitigate any impacts that would have an effect on a prior appropriator. Here, I found that the aquifer is not hydraulically connected to the Spain-Ferris Ditch, but it is hydraulically connected to the West Gallatin River. There is not sufficient evidence beyond a few measurements to determine that the reach of the West Gallatin River adjacent to the proposed points of diversion is losing when they are countered by multiple published reports indicating the reach is generally gaining. These measurements may suggest that a more detailed study is needed in this area to determine the if the gaining and losing state of the West Gallatin River has changed. I find that the modeled amount of water is not immediately or directly connected to the West Gallatin River because it does not induce infiltration and, thus,

the modeled amount under this Application is not subject to the Upper Missouri River basin closure. Mont. Code Ann. §§85-2-342, 343. *See* Finding of Fact Nos. 20, 21, 22, 23.

2. The DNRC has jurisdiction to issue a provisional permit for the beneficial use of water if the applicant proves the criteria in Mont. Code Ann. §85-2-311 by a preponderance of the evidence. Mont. Code Ann. §85-2-311(1).

3. A permit shall be issued if there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, and in the amount requested, based on an **analysis** of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water; the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state reservation will not be adversely affected based on a consideration of an applicant's **plan** for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied; the proposed means of diversion, construction, and operation of the appropriation works are adequate; the proposed use of water is a beneficial use; the applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use; and, if raised in a valid objection, the water quality of a prior appropriator will not be adversely affected, the proposed use will be substantially in accordance with the classification of water, and the ability of a discharge permitholder to satisfy effluent limitations of a permit will not be adversely affected. Mont. Code Ann. §85-2-311 (1) (a) through (h).

4. The Applicant has proven that water is physically available at the proposed point of diversion in the amount modeled for both the cooling wells and the production wells. Mont. Code Ann. §85-2-311(1)(a)(i). *See* Finding of Fact Nos. 5, 6.

5. The Applicant has proven that water can reasonably be considered legally available. Water physically available within the area of potential impact is legally available when it is not destined for a senior appropriator at a time it can be diverted and used by the senior. *See In the Matter of 41C-11339900 and 41C-19391600 by Three Creeks Ranch of Wyoming*, Final Order (2002). Applicant has shown sufficient water will be physically available at the point of diversion to supply the amount modeled throughout the period of appropriation, and senior appropriators

will be able to continue exercising their water rights. Mont. Code Ann. §85-2-311(1)(a)(ii). *See* Finding of Fact Nos. 7, 8.

6. The Applicant has proven that the water rights of prior appropriators under existing water rights, certificates, permits, or state reservations will not be adversely affected: (1) when the pumping rate is reduced[7] to the flow rate and plan of operation used in the cone of depression analysis; (2) when conditioned according to Applicant's plan to limit pumping of both cooling and production well clusters to one well at a time in a rotation scheme where at least on a daily frequency a well supplies the daily demand and then pumping rotates to another well for the next demand cycle; and (3) when conditioned to Applicant's plan to forego use of two irrigation water rights from the West Gallatin River. An augmentation plan cannot change a determination that water is immediately or directly connected to surface water. However, when ground water is not immediately or directly connected to surface water as has been determined here, *See* Conclusion of Law No. 1 above, augmentation can be used to assure prior rights can continue to be satisfied if a permit is exercised. Here, the record is that the capture of ground water tributary to the West Gallatin River occurs year round, but only adversely affects prior appropriators during the irrigation season. Had the record been that non-irrigation season rights would be affected, the augmentation plan would have had to cover that time as well. Thus, augmentation water, the water not used by these two irrigation rights, must be protected from diversion from its historic point of diversion into the Beck and Border Ditch through the reach of the West Gallatin River where water captured from the aquifer would have entered the West Gallatin River. That is, Applicant's plan must be modified such that the purpose of use and place of use must be legally changed for the two surface water rights in Applicant's augmentation plan. The well pumping rotation scheme applies to both the cooling wells and the production wells. Objectors voiced concern about less water in the River if additional people move to the Four Corners area, and their water right may be called in the future by a downstream senior appropriator because there is less water in the river. Objectors are also concerned about effects on lower West Gallatin River water levels on recreational use of the river or use of nearby river habitat. However, Objectors have no water right for recreational use of the West Gallatin River which can be adversely affected or used to call the source when flows are low. In any event, Applicant's plan as modified by the Hearing Examiner will mitigate any loss to the West Gallatin

[7] In Springdale the Hearing Examiner found that the Applicant did not model a full season's use, here the Applicant did not use the requested flow rate in the model. To project the impacts of a proposal, one must look at the impacts from the whole project, not just a part.

River by captured ground water at times prior rights will be adversely affected. Mont. Code Ann. §85-2-311(1)(b). *See* Finding of Fact Nos. 9, 10, 11, 12, 13, 14.

7. The Applicant has proven that the proposed means of diversion, construction, and operation of the appropriation works are adequate. Mont. Code Ann. §§85-2-102(2), 311(1)(c). *See* Finding of Fact Nos. 15, 16.

8. The Applicant has proven the proposed use of water is a beneficial use of water for which Applicant can establish a water right under a permit. Mont. Code Ann. §85-2-311(1)(d). *See* Finding of Fact No. 17.

9. The Applicant has proven a possessory interest in the property where water is to be put to beneficial use. Mont. Code Ann. §85-2-311(1)(e). *See* Finding of Fact No. 18.

10. No objection was raised as to the issue of water quality of a prior appropriator being adversely affected, the proposed use not being in accordance with a classification of water, or as to the ability of a discharge permit holder to satisfy effluent limitation of a permit. Mont. Code Ann. §85-2-311(1)(f), (g), (h). *See* Finding of Fact No. 19.

11. When the DNRC finds the basin closure statutes do not apply, the DNRC may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria for issuance of a beneficial water use permit when the Applicant has met the criteria for issuance of a permit. Applicant has met the criteria for issuance of a permit when conditions are applied. Mont. Code Ann. §85-2-312. *See* Conclusion of Law Nos. 1, 2, 6.

WHEREFORE, based upon the foregoing Findings of Fact and Conclusions of Law, the Hearing Examiner makes the following:

PROPOSED ORDER

Subject to the terms, conditions, restrictions, and limitations listed below, Beneficial Water Use Permit 41h 11546900 is **GRANTED** to Zoot Properties, LLC, to appropriate 467 gallons per minute (gpm) up to 238.0 acre-feet of water per year from ground water. The water is diverted using a total of six wells. Three wells are single purpose geothermal cooling wells to appropriate a total of 167 gpm up to 56.5 acre-feet per year. The three geothermal cooling wells are located in the SW¼SE¼NW¼, NW¼NE¼SW¼, SE¼SE¼NW¼, all in Section 11, Township 02 South, Range 04 East, Gallatin County, Montana. The place of geothermal cooling use is in the SW¼ of Section 11, Township 02 South, Range 04 East, Gallatin County,

Montana, between May 1 and September 30 of each year. The remaining three multi purpose production (domestic, commercial, and irrigation) wells, to appropriate a total of 300 gpm up to 181.5 acre-feet, are located in the NE¼NW¼SW¼, SE¼SW¼NW¼, NE¼NW¼SW¼, all in Section 11, Township 02 South, Range 04 East, Gallatin County, Montana. The place of use for the year-round multiple domestic purpose of 45.3 acre-feet, the year-round commercial purpose of 42.5 acre-feet, and the 35 acre irrigation purpose of 93.7 acre-feet, are located in the SW¼ of Section 11, Township 02 South, Range 04 East, Gallatin County, Montana. The irrigation period of diversion and period of use is May 1 through September 30, inclusive, of each year.

A. The Permittee must rotate pumping among the three cooling wells so that no more than one well is pumped at a time. Each well's pumping cycle must last no longer than 24 hours.

B. All water pumped from the cooling wells must be returned to the aquifer via a clean water drain field after use for the geothermal cooling purpose.

C. The Permittee must rotate pumping among the three production wells so no more than one well is pumped at a time. Each well pumping cycle must last no longer than 24 hours. Pumping from more than one well is allowed only for emergency fire protection.

D. The Permittee must apply for and be granted a change authorization from the DNRC for Permittee's forty percent (40%) portion of each Water Right Claim Nos. 41H-126909 and 41H-126910 before using water under this Permit. The authorization must protect the water from diversion and change the place of use of each water right to the reach of the West Gallatin River beginning at the current point of diversion (the Beck and Border Ditch) and ending downstream at the point where the West Gallatin River leaves the north side of Sections 10 and 11, Township 02 South, Range 04 East, Gallatin County, Montana. These surface water rights must not be diverted at any time ground water under this permit is being used.

NOTICE

This Proposal for Decision may be adopted as the DNRC's final decision unless timely exceptions are filed as described below. Any party adversely affected by this Proposal for Decision may file exceptions and a supporting brief with the Hearing Examiner and request oral argument. Exceptions and briefs, and requests for oral argument must be filed with the DNRC by March 8, 2005, or postmarked by the same date, and copies mailed by that same date to all parties.

Parties may file responses and response briefs to any exception filed by another party. The responses and response briefs must be filed with the DNRC by March 28, 2005, or postmarked by the same date, and copies must be mailed by that same date to all parties. No new evidence will be considered.

No final decision shall be made until after the expiration of the above time periods, and due consideration of *timely* oral argument requests, exceptions, responses, and briefs.

Dated this 16th day of February 2005.

_____

Charles F Brasen
Hearings Officer
Water Resources Division
Department of Natural Resources
and Conservation
PO Box 201601
Helena, Montana 59620-1601

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CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PROPOSAL FOR DECISION was served upon all parties listed below on this 16th day of February, 2005 by first class United States mail.

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